CONTENTS

GENERAL SESSION

Presidential Address
William F. Meggitt 11
Herbicide Usage on Major Field Crops in the North Central Region and United States
Herman W. Delvo 12
Before the Rookie Season
Robert L. Benson and Dale A. MacDonald 16
Public Relations and Publicity—How to Achieve It
Steve Nienaber 18
Who is the National Sprayer & Duster Council?
Lloyd Hahn 21
High School Science—New Loci in Response to Rachel Carson
Charles C. Campbell 22
OSHA and the Pesticide Industry
Mrs. J. S. Van Wert 26, 113

GRADUATE CONTEST PAPERS

Conversion of Lawns from Bentgrass to Kentucky Bluegrass by the Use of Herbicides
D. W. Black and A. J. Turgeon 27
Turf Reestablishment Using Glyphosate for Perennial Weed Control
P. Sprankle, A. D. Kern and William F. Meggitt 27
Selective Control of Yellow Nutsedge in Kentucky Bluegrass Turf with Bentazon, S-21634 and MBR-8251
A. D. Kern and William F. Meggitt 27
Effect of Linuron, Metribuzin and Chlorbromuron on Cocklebur Control
T. H. Wright and Charles E. Rieck 28
The Relationship Between Root Rot and Herbicide Application in Navy Beans
D. L. Wyse and William F. Meggitt 28
Effect of Post-application Rainfall on the Activity of Bentazon
David L. Doran 29
Effect of Adjuvants on Wild Oat Control in Spring Wheat with AC-84777
Sheldon E. Blank and Richard Behrens 29
Timing of Glyphosate Applications for Quackgrass Control
Jon S. Claus and Richard Behrens 29
Selection of Crops for Sand Culture Bioassay of Herbicides in Groundwater
Lorne E. Wilson and Terry L. Lavy 30
Soil Degradation of Metribuzin
R. W. Schumacher, C. E. Rieck and L. P. Bush 30
Root Growth and Uptake Studies on Four **Setaria** Taxa
Philip L. Orwick and Marvin M. Schreiber 31
Subsurface Injected Trifluralin and Dicamba for Control of Field Bindweed
William B. O'Neal and W. Eugene Arnold 31

FORAGE AND RANGE WEED CONTROL AND INDUSTRIAL

Downy Brome Control on Nebraska Rangeland
L. A. Morrow, Charles R. Fenster and M. K. McCarty 32
Weed Control on North Dakota Rangeland
Larry W. Mitich 32
Biological Control of Musk Thistle
M. K. McCarty, L. A. Morrow and A. R. Martin 33
A New Technique for Control of Undesirable Brush
D. W. Finnerty, F. J. Otto, H. L. Palm and C. W. Bingeman 33
Control of Common Milkweed on Roadsides
Larry J. Rains and O. Hale Fletchall 35
Downy Brome Control in Established Alfalfa
W. Eugene Arnold and William B. O'Neal 36
Weed Control in Alfalfa
C. R. Fenster 36
Quackgrass Control in Alfalfa with Pronamide
R. G. Harvey 38
Total Vegetation Control with Tebuthiuron—A New Broad Spectrum Herbicide
J. C. Walker, M. L. Jones and J. E. Shaw 39

WEED CONTROL IN FIELD CROPS, SOYBEANS, FIELD BEANS AND SUGARBEETS AND NEW HERBICIDES

Herbicide Use on Soybeans in the North Central Region, 1973
Herman W. Delvo 40
Soybean Herbicide Evaluations Across Iowa in 1973
Vivan M. Jennings, David W. Staniforth and Walter G. Lovely 42

Narrow Row Soybean Herbicide Trials in Nebraska
Russell S. Moomaw and Orvin C. Burnside 46
The Jimsonweed Problem in Indiana Soybean Production
Merrill A. Ross, James L. Williams, Jr. and Thomas T. Bauman 48
Straw Management in Wheat-Soybean Double Cropping Systems
Curtis M. Royster and Harold D. Kerr 48
Herbicide Treatments for Zero-Tillage and Double Crop Soybeans
Merrill A. Ross, James L. Williams, Jr. and Thomas T. Bauman 50
Wild Proso Millet, **Panicum Miliaceum** L., a New Weed Problem in Minnesota
Oliver E. Strand, Richard Behrens and Gerald R. Miller 51
Postemergence Treatments for Controlling Volunteer Corn and Giant Foxtail in Soybeans
Robert N. Andersen 52
Herbicidal Control of Johnsongrass in Soybeans
Fred W. Roeth 52
Using Preplant Herbicides to Control Established Johnsongrass in Soybeans
Louis J. Meyer, Edwin J. Beason and Fred W. Boren 53
Use of Soybeans as a Rescue Crop Following Cyanazine Applications to Corn
Ronald P. Thompson and Fred W. Slife 53
The Effect of Atrazine Residue on the Tolerance of Navy Beans to Herbicides
D. L. Wyse and William F. Meggitt 53
Soybean Tolerance to Atrazine
John E. Bozarth, Oliver G. Russ and Cecil Nickell 54
Influence of Depth of Incorporation of EPTC and Diallate on Emergence of Wild Oat from Four Depths
Alan G. Dexter, S. D. Miller and John D. Nalewaja 54
Oryzalin: A Surface Applied Herbicide for Weed Control in Soybeans
R. William Gesink, J. B. Edmondson, J. C. Walker and H. L. Webster 56
S-6851 Soybean Herbicide
Joe W. Pullen 56
Oxadizon—A Selective Herbicide for Soybeans
Robert B. Huntoon and Siegfried A. Gagnon 57
RP-15018 and RP-20810—Two Experimental Preemergence Herbicides for Soybeans
Siegfried A. Gagnon and Robert B. Huntoon 58
Trifluralin and Metribuzin for Broad Spectrum Weed Control in Soybeans
H. L. Webster, J. B. Edmondson, R. William Gesink, M. L. Jones and J. C. Walker 60
Soybean Yield Responses ta Bentazon and Other Herbicide Treatments under Weed-free Conditions
David W. Staniforth and Walter G. Lovely 62
Alachlor Tank Mixes with Naptalam, Chlorpropham and Naptalam, Dinoseb
Keith M. McReynolds, Robert W. Neidermyer and Roy C. Parker 62

PHYSIOLOGY, EDAPHIC ASPECTS AND CONTROL OF SPECIFIC WEEDS

S-21634 Postemergent Herbicide for Nutsedge Control
James L. Ahle and Elvis R. Cozart 64
Canada Thistle and Yellow Nutsedge Control with Split Applications of Bentazon
Larry W. Hendrick, Maurice A. Veenstra and Robert E. Ascheman 64
Influence of Climate and Additives on Bentazon Action
John D. Nalewaja and Jerzy Pudelko 64
Bentazon Metabolism in Navy Bean and Soybean
Martin Mahoney and Donald Penner 65
Longevity of Foxtail Taxa in Undisturbed Sites
Marvin M. Schreiber 65
Influence of Pre- and Post-Treatment Relative Humidity on the Phytotoxicity of 2,4-D
Richard Behrens 65
Effects of 2,4-D and Dalapon on Weed Seed Production and Dormancy
Richard S. Fawcett and Fred W. Slife 66
Control of Field Bindweed by Subsurface Layered and Foliar Applied Herbicides
Eugene M. Jorgenson and Calvin G. Messersmith 66

HORTICULTURAL CROPS, INDUSTRY AND EQUIPMENT

Effect of Chloroxuron and a Chloroxuron-Diphenamid Mixture on Growth of Newly Planted Strawberries When Used for Control of Annual Weeds
Leonard B. Hertz 67
Metribuzin and Metribuzin Combinations for Weed Control in Tomatoes
Wayne C. Carlson and John Fortino 67
Research Results with Metribuzin in Tomatoes
R. R. Romanowski and G. F. Warren 68
Use of Activated Carbon to Inactive Herbicide Residues in the Soil
G. F. Warren 68
A Progress Report on Agricultural Uses of Activated Charcoal
Kenneth E. Clapp 69
Problems Encountered by Adding Foaming Agents to Pesticide Sprays
Frank S. Black 69
Drift Control with Visko-Rhap
Phil Griffith 73
A Chemical Roguing Technique with the Herbicide Glove
George W. Laws 75

FIELD CROPS—CORN AND SORGHUM

Effect of Corn Residues on Herbicide Performance in Corn Across Nebraska in 1973
Gail A. Wicks, Charles R. Fenster, Orvin C. Burnside and Russell S. Moomaw 76
Tillage Influence on Corn Herbicide Performance in Fall Panicum Trials
Thomas T. Bauman, James L. Williams, Jr. and Merrill A. Ross 77
Preplant Tillage Influence on Corn Weed Control
James L. Williams, Jr., Merrill A. Ross and Thomas T. Bauman 78
Influence of Oil Additives on Foxtail Control with Cyanazine
John D. Nalewaja, Jerzy Pudelko and Bohdan Skopiec 79
Evaluation of a Nitrogen Solution as a Carrier of Herbicides
Oliver G. Russ, Robert F. Sloan and Larry S. Murphy 79
Corn Herbicide Evaluations Across Iowa in 1973
Vivan M. Jennings, Walter G. Lovely and David W. Staniforth 80
Field Corn Inbreds and Popcorn Tolerance to Several Corn Herbicides
James L. Williams, Jr., Merrill A. Ross and Thomas T. Bauman 84
Rowtate—A Herbicide for Problem Weeds in Corn
Bart A. Brinkman and Ralph P. Burton 85
Prowl—A New Herbicide for Corn
William S. Van Scoik, Maurice E. Weis, Paul S. Ogg and William W. Roberts 85
Bifenox Broadleaf Herbicide—A Status Report
Paul J. Kruger 85

EXTENSION AND REGULATORY

The Gallatin County Extension Weed Control Program
Earl M. Lutz 87
Weed Science Phase of Pest Management
Randall Nelson 88
Field Investigations of Herbicide Damage Claims
Philip H. Marvin 88
Drift Control
Evan Swartz 90
Federal Noxious Weed Legislation
Joseph F. Spears 90
Problems in Implementation of Kansas Pesticide Use Law
Freeman E. Biery 90
Amendments to Kansas Noxious Weed Law
Freeman E. Biery 91
A Field Training Program and Slide Set on Crop Injury from Herbicides
Gerald R. Miller 92
Herbicide Demonstration Plots—The Herbicide Legitimizer for Farmers
Charles R. Howell 93
Latest in Pesticide Regulations
J. C. Wicklund 93

RESIDENT EDUCATION

Teaching Weed Identification in Weed Science
Marshal D. McGlamery 94
Teaching: Soil Herbicide Relations
Charles E. Rieck 94
Teaching Weed Control for Field Crops Students
James P. Worthington 94
Teaching Herbicide Safety and the Law
W. Eugene Arnold 95
Teaching Pest Management to Turf Students
A. J. Turgeon 95
Integrating Aquatic Weed Science into an Aquatic Botany Course
Carole A. Lembi 96

CEREALS AND OIL SEED CROPS

Effect of Additives on 2,4-D
Phillip W. Stahlman and Calvin G. Messersmith 98
Herbicide Protectants with Triallate and Barban
S. D. Miller, John D. Nalewaja and Jerzy Pudelko 98
Avenge—A New Wild Oat Herbicide
Maurice E. Weis, Tom O'Hare and C. Barry Wingfield 100
Wild Oat Control with SD-26624, SD-29761 and SD-29762
S. D. Miller and John D. Nalewaja 100
Soil Residual Activity of Dowco 290 Herbicide
J. Barry Regan and Fred G. Andriessen 102

TURF, ORNAMENTALS AND AQUATICS

Aquatic Weed Control Results in Indiana in 1973
Carole A. Lembi 105
Aquatic Plant Control. Where Do Wo Go From Here?
Robert C. Hiltibran 105
Dimethylthidecylamine Oxide Salts of Endothall as Aquatic Herbicides
Frederick E. Temby 107
Studies on the Life History and Control of Watermeal (**Wolffia** sp.)
Liene A. Karels and Carole A. Lembi 107
Studies on the White Amur as a Biological Control for Waterweeds in Indiana
Michael J. Doskocil, Robert Willey and Carole A. Lembi 107
Evaluation Results of Preemergence Herbicides for Crabgrass Control in Turf
A. J. Turgeon 108
Chemical Control of Yellow Nutsedge in Turf
John H. Dunn, Delbert D. Hemphill and Nagendra P. Das 109
Sustar™, A Turfgrass Growth Regulator
David R. Pauley, Eldon S. Ratcliffe and Richard D. Gruenhagen 111
Comparison of Air-Induction and Conventional Nozzles for Herbicide Application to Turf
Marshal D. McGlamery and A. J. Turgeon 111

ADDENDUM TO GENERAL SESSION 113

HONORARY MEMBERSHIP 116

MEETING OF BOARD OF DIRECTORS 117

NECROLOGY 126

NCWCC COMMITTEES FOR 1973 127

NCWCC COMMITTEES FOR 1974 128

SECTION CHAIRMEN OF THE NCWCC PROGRAM COMMITTEE 129

REGISTRATION LIST 130

PREPARATION OF BRIEF RESEARCH REPORTS FOR 1974 140

AVAILABLE PROCEEDINGS AND RESEARCH REPORTS 145

LIST OF SUSTAINING MEMBERS 146